

REMARKS

Claims 22-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Koma (U.S. 6,229,589) in view of Song et al. (U.S. 6,657,695). Applicants respectfully traverse this rejection because neither of cited references, whether taken alone or in combination, discloses or suggests that the same first orientation control element is provided on both the first and second substrates, as in claim 22 of the present invention, as amended.

With respect to the Koma reference, Applicants note that the Examiner does not even assert that Koma discloses both a first and a second orientation control element, as in the present invention. The Examiner only asserts, on page 3 of Paper No. 1004, the Koma's orientation control window 50 is analogous to the second orientation control element of the present invention. In fact, Koma does disclose two orientation control elements – the orientation control window 50, as noted by the Examiner, and the orientation film 20 – but also shows that neither element 20, 50 is formed on both the first and second substrates. (See Fig. 4). Moreover, the orientation film 20 could not be reasonably interpreted to be analogous to either of the first and second orientation control elements of the present invention, because the film 20 does not “extend” in any one particular direction. Koma expressly teaches that the orientation film 20 is “formed on the entire surface” of the elements on the lower substrate. (Col. 4, lines 60-62).

Song similarly fails to teach or suggest the same particular features of the present invention. The Examiner asserts that Song's protrusions 15 and slits 3 are analogous to the first orientation control element of the present invention. Similar to the problem noted

above, however, the Examiner does not assert what element in Song he deems to be analogous to the second orientation control element of the present invention, nor has the Examiner explained where in either of the two references is a teaching or suggestion for how and why to combine the orientation control window 50 of Koma with the protrusions 15 and slits 3 of Song. For at least these reasons, the rejection is deficient on its face, and should be withdrawn. Furthermore, the rejection should be withdrawn because the cited protrusions 15 and slits 3 in Song are shown to be formed only on the single TFT substrate 10, and neither of these two elements is also formed on the color filter substrate 20.

In contrast, claim 1 of the present invention as amended recites, among other things, that the first orientation control element is provided on both the first and second substrates respectively. Support for this claim amendment can be found at at least Fig. 18, elements 23, 41, for example. As discussed above, neither of the two cited prior art references teaches or even suggests such features. Neither reference shows the same orientation control element provided on both of the substrates. Therefore, neither of the two cited references, alone or together, could achieve the advantageous structure of the present invention that realizes a predetermined divisional orientation for each pixel of a liquid crystal layer. Accordingly, for any of the foregoing reasons, the Section 103 rejection of claim 22 (and its dependent claims 23-26) based on a combination of Koma with Song should be withdrawn.

New claims 34 and 35 have been added to recite additional combinations of features of the present invention. New claim 34 depends from independent claim 22, and

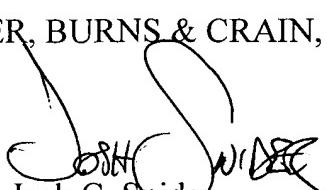
should therefore be in condition for allowance for at least the reasons discussed above with respect to claim 22. Similarly, new claim 35 should also be in condition for allowance because it depends from claim 34. With respect to claim 34 specifically, this claim should also be allowable over the cited prior art of record because at least the Koma reference directly teaches away from the subject matter of this claim.

Specifically, Koma expressly teaches, at col. 5, lines 11-15, that the liquid crystal molecules 41 have vertical alignment only in the presence of a weak electric field, and do not tilt. In contrast, claim 34 recites that the liquid crystal molecules on the second orientation control element are oriented in a non-vertical direction when no voltage is applied. In other words, the molecules in Koma do not tilt in the presence of a weak electric field (no applied voltage), while the molecules of the present invention do tilt in the presence of a weak electric field. For at least these additional reasons therefore, new claim 34 should further be in condition for allowance.

For all of the foregoing reasons, Applicants submit that this Application, including claims 22-26 and 34-35, is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

Customer No. 24978
May 31, 2005
300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: (312) 360-0080
Facsimile: (312) 360-9315
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GREER, BURNS & CRAIN, LTD.
By 
Josh C. Snider
Registration No. 47,954